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(12) **United States Patent**
Dai

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(54) **COMPOUND MODULATION TRANSFER
FUNCTION FOR LASER SURGERY AND
OTHER OPTICAL APPLICATIONS**

(52) **U.S. Cl.** 351/205; 351/246

(58) **Field of Classification Search** 351/205,
351/212, 219, 246, 247

See application file for complete search history.

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(*) Notice: Subject to any disclaimer, the term of this
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(65) **Prior Publication Data**

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Related U.S. Application Data

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(57) **ABSTRACT**

Methods, devices, and systems establish an optical surface
shape that mitigates or treats a vision condition in a patient.
An optical surface shape for a particular patient can be deter-
mined using a set of patient parameters for the specific patient
by using a compound modulation transfer function (CMTF).
The compound modulation transfer function can include a
combination of modulation transfer functions (MTF's) at a
plurality of distinct frequencies.

(51) **Int. Cl.**

A61B 3/10 (2006.01)

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20 Claims, 51 Drawing Sheets

